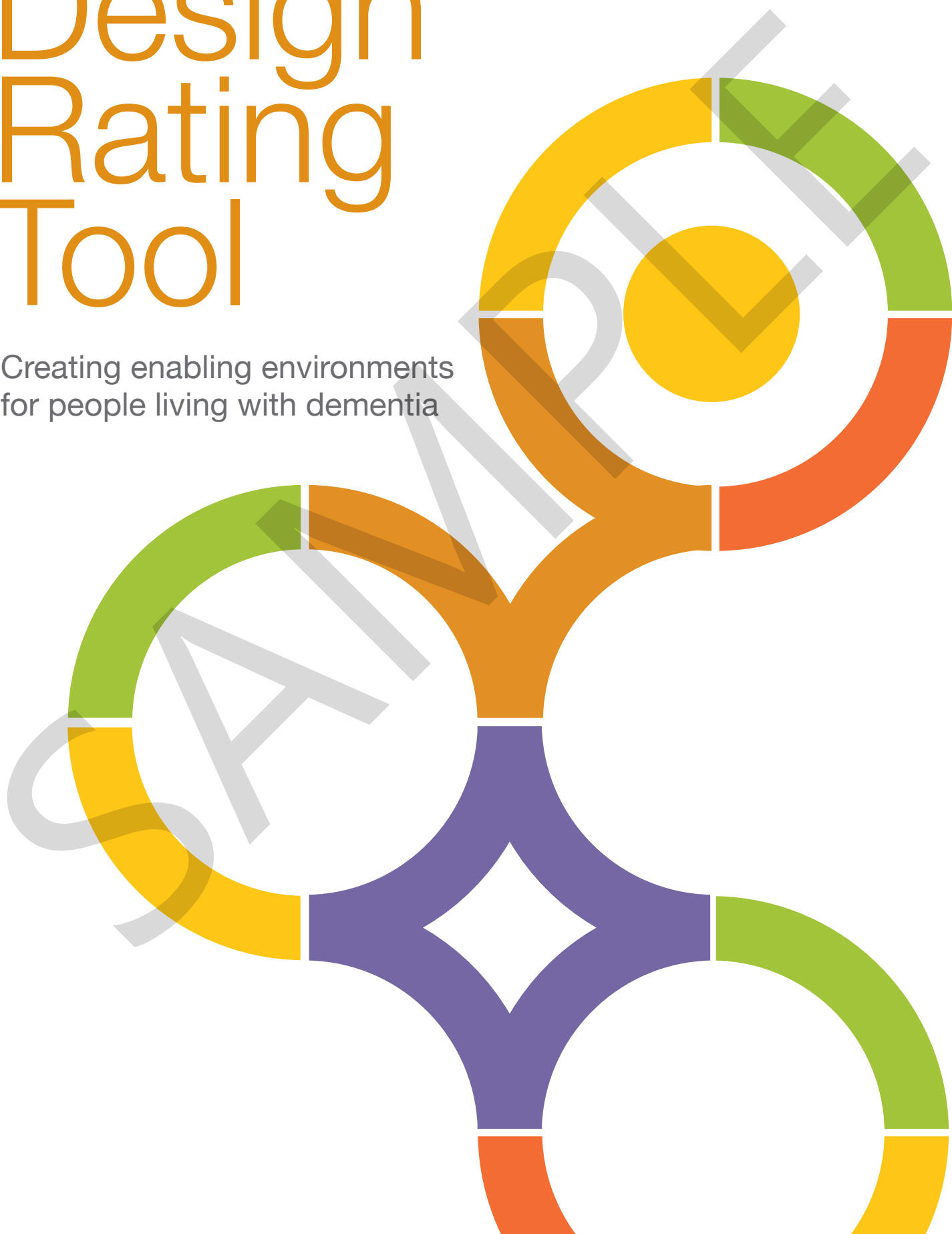


# Dementia Design Rating Tool

Creating enabling environments  
for people living with dementia



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# Introduction



The Dementia Centre exists to enhance the quality of life for people of all ages living with dementia. *DesignSmart* has been developed by the Centre to assist in the creation of built environments that empower and enable older people and people with dementia. Extensive, new research has been undertaken by the authors to ensure that *DesignSmart* is an evidence-based rating tool and provides the user with the means to undertake a comprehensive assessment of an environment. *DesignSmart* seeks to support architects, designers and decision-makers to understand the important elements of good design and incorporate these into physical and social environments.

Designed with the user in mind, the *DesignSmart* tool will aid prioritisation and structure in decisions and/or recommendations to executive and financial decision-makers. It provides the framework and detail to ensure that all stakeholders in a design project have a shared understanding of common objectives and priorities.

Our knowledge of good design for people with dementia is continually informed by research and expert input. This ensures *DesignSmart* can offer a framework to promote and support good decision-making in the design of buildings, rooms and spaces for older people and people living with dementia. It has been produced by a project team who have expertise in caring, designing and reviewing spaces for older people and people living with dementia. This team has brought together evidence from peer reviewed journals, examples of contemporary practice and feedback from people living with dementia to form a set of comprehensive criteria to guide the consideration and incorporation of design features.

## Why is it important to consider ageing and dementia in design?

People living with dementia can experience a variety of impairments due to damage caused in the brain. These can include:

- impaired memory – both short term and long term memory
- poor concentration
- shorter attention span
- disorientation to time, dates and their location
- difficulty with identifying and naming objects
- word-finding difficulties
- difficulty learning new information
- difficulty planning and organising movements, including coordination
- difficulty with planning and sequencing steps to complete a task
- changes in personality and mood
- impaired judgement.

People living with dementia can also experience age-related changes and impairments. These can include:

- vision – reduced visual acuity, glaucoma, cataracts and macular degeneration
- hearing – inability to hear high pitch sounds, hearing aids amplifying all sound/noise
- mobility and balance – shuffling gait, reduced sensation in feet, slower reaction to adjusting balance
- exercise tolerance and breathing capacity – reduced lung capacity.

Combine the impairments of ageing and dementia together and the risk of a person becoming overwhelmed, frightened or increasingly dependent upon others is all too clear. In addition to these difficulties, people with dementia may not recall experiencing an impairment or be able to work out how to overcome it.

If we do not provide an enabling and supportive environment for a person with dementia, they will experience a higher level of disability (referred to as excess disability), which in turn can negatively impact self-esteem, confidence and self-worth. In our experience, it is usually an unsuitable, confusing or debilitating environment that creates issues for a person with dementia – physically, cognitively and emotionally, rather than their dementia alone. This is why creating enabling and supportive environments is one of the key non-pharmacological interventions.

### Core design principles and values

At present there is no cure for dementia, but we can help a person living with dementia to be independent for as long as possible by putting into practice good design strategies. There is a growing field of research investigating the effect that good design can have on people living with dementia. A suitable living environment can maximise function, independence and emotional wellbeing. A poorly designed building reinforces a person's difficulties and dependence. With increasing attention on the overuse of antipsychotic medications and side effects such as falls, it is timely and prudent that non-medication based strategies, including improvements in the physical environment, are available to compensate for difficulties caused by damage to the brain and enable a person with dementia to be as independent as possible.

Principles and features of a suitable design for people with dementia underpin the criteria listed in DesignSmart. Dr Stephen Judd, Professor Mary Marshall and Peter Phippen (1999)<sup>1</sup> write that a dementia-suitable environment should:

- maximise independence
- compensate for disability
- demonstrate care for staff
- enhance self-esteem and self confidence
- allow control of stimuli
- provide scope for ordinary activity
- welcome relatives and the local community
- be orientating and understandable
- reinforce personal identity.

The design principles listed above provide an overarching approach to design and form the foundation for good design for older people and people with dementia. These principles should be adhered to when planning a new build or refurbishment project. From these principles, a set of design features were developed which are the practical manifestation of the principles. To accomplish the principles, ensure that the building contains the following design features:

- small size
- familiar and domestic
- scope for ordinary activities
- unobtrusive inclusion of safety features
- different rooms/spaces for different functions
- a safe outside space
- single rooms big enough for personal belongings
- good signage and multiple cues where possible
- use of objects rather than colour for orientation
- enhance visual access
- control of stimuli especially noise, glare and excessive temperature
- close to community.

It is important to understand that a well-designed building is not a stand-alone strategy for producing a high-quality standard of care. The model and philosophy of care provided in the building is also essential. If the built environment and the model of care are not interconnected, positive outcomes for people will not be achieved. The essential values that a model of care and building design should

<sup>1</sup> Judd, S., Marshall, M. & Phippen, P. (Eds). (1999). Design for Dementia. Journal of Dementia Care: London.

seek to provide for all people living in/using the building are:

- appropriate for age and cultural background
- capacity for spaces/rooms to be individualised
- encouragement and support for engagement – both active and passive
- encouragement of independence, autonomy and choice
- facilitating relationships
- suitability for the range and diversity of cognitive, sensory and physical impairments.

This tool does not assess or guide the model and philosophy of care, however some of the criteria highlight the importance of having a complimentary model of care. Managing risks, training care staff to support a person with dementia engage in normal day to day/non-leisure based activity, educating staff to understand and use design features to support and enhance the daily lives of people with dementia are essential components of an approach to care. These factors should be considered when developing an action plan to improve the environment.

### Where can the criteria in *DesignSmart* be used?

The *DesignSmart* rating tool can be used for decisions on a new build and to inform the refurbishment of the existing stock of buildings that older people and people with dementia use. The tool has been designed to be used on projects across a range of settings including:

- residential aged care services
- dementia specific units
- hospital buildings and wards
- retirement villages and independent living units
- supportive housing

- community respite centres
- medical centres
- community/neighbourhood centres.

The tool has been primarily written for the residential aged care (nursing home) environment but can be used in other settings by focusing on the areas and criteria that are relevant and useful while setting aside other areas, such as the spaces that older people and people with dementia do not walk through or use<sup>2</sup>. However, consider the areas and criteria being deleted as part of the overall analysis of your findings. They may provide you with suggestions for improvements to your existing environment.

### What does *DesignSmart* include?

*DesignSmart* (v1) consists of four parts:

#### Part 1

#### Introduction to design and instructions for using the *DesignSmart* tool

This section of *DesignSmart* (you are reading now) provides essential background information for understanding the overall intention of the tool and the criteria. It explains how to prepare and conduct the audit and gives useful information on the layout of the tool.

#### Part 2

#### Rating criteria and explanatory advice

This part of the tool outlines the areas/rooms of the building to be covered in the audit and provides criteria for each area/room as well as detailed explanatory notes to help understand the intent and specifications of each criterion.

Each area/room section begins with a list of prioritised outcomes which are aligned to design principles and features. If you meet all the 'Required' criteria, you are on the path to achieving the listed outcomes for the people who live and work in that space. The outcomes will assist with analysis of the findings and support the rationale for action planning. The outcomes also highlight why

<sup>2</sup> Please note this is different from areas residents are excluded from but should have access to (e.g. a garden space or kitchen).





## Rating criteria and explanatory advice



# Master site planning

## Outcomes

1. Institutional intrusion is minimised.
2. The exterior and interior of the building complement each other.
3. The design supports staff in their work.
4. Stimuli, such as noise and busyness (e.g. traffic and people) are minimised.
5. A sense of community is created, encouraging interaction and connection, rather than segregation and confinement.
6. The design and layout of the buildings and services supports the physical, emotional, cognitive and spiritual needs of older people and people with dementia.

### A

### Master site planning

#### Site layout

A.1



Buildings have been orientated on the site to minimise noise and unnecessary stimulation.

Site planning places noise sources (e.g. garbage trucks, service areas, road noise) away from spaces used by older people and people with dementia (e.g. bedrooms, living areas and secure outdoor areas).

A.2



Buildings are positioned to promote good solar access.

The interiors of buildings and outdoor spaces are orientated for unobstructed and daily access to natural light throughout all seasons. Areas for shade and access to full sun should be available and planned for. Any shade structures that create repetitive shadow patterns are avoided.

A.3



Site/operational services and plant/equipment are managed to minimise noise and disruption to residents.

Equipment and significant services are located in areas where access is from non-resident spaces and away from the main entrance to the unit and from bedrooms resulting in minimal acoustic and visual impact on residents and staff. Arrangement provides access for tradesperson with minimal impact on people living in the space. Noise from motors such as for air conditioning systems or exhaust fans have been minimised through the appropriate installation treatment and selection of plant equipment.

Check the noise levels with a sound meter. Please refer to specialist guidance documents for specific auditory levels.

Operational services, such as clean and dirty linen, are located in such a way as to eliminate use of trolleys within the residential space. Storage for larger, less often used items such as lifters and oxygen is away from the living areas (including bedrooms and bathrooms). Concealed doors are used to provide entry into staff-only areas where this equipment is stored.

<b>A.4</b>	<b>A</b>	The building is designed to fit into the local community.
Logical connection with community, not institutional, fits into the community as a house. Exterior look and materials are similar to the surrounding houses in the neighbourhood. The external facade and design of the building should match the domestic and familiar ambience being created internally.		
<b>A.5</b>	<b>A</b>	Privacy from neighbours is provided.
Position of windows, window treatments and outdoor area design ensure that the building's residents and neighbours have good privacy.		
<b>Building design elements – Layout</b>		
<b>A.6</b>	<b>R</b>	The building scale is small and domestic.
Large buildings which look institutional, clinical or commercial do not help a person feel comfortable. The building (or units within) should provide accommodation and communal living areas for no more than 15 people in any one area. A large accessible building with corridors and multiple living areas can be confusing and hard to navigate. Buildings should be clustered into smaller units that are self-contained.		
<b>A.7</b>	<b>A</b>	The building contains a variety of zones that are distinct but provide logical connection.
Clear delineation of public, semi-public, semi-private and private spaces helps a person with dementia understand the function and purpose of the space, maintain dignity and reduce feelings of institutionalisation, fear and anxiety. These zones are fundamental to avoiding institutional outcomes, so that people living in the spaces have options to entertain visitors in semi-private areas other than the person's bedroom.		
<b>A.8</b>	<b>A</b>	Workflow and access is managed to avoid pedestrian movement through private and semi-private areas of the home.
Hierarchy of movement is managed with careful consideration at a master planning level to maintain delineation of public, semi-public, semi private and private spaces. For example, visitors can directly access the unit they want to visit without needing to walk through other units or spaces.		
<b>A.9</b>	<b>A</b>	The entry to the unit/residence area is appropriately positioned and consistent with a domestic scale.
Entry into the unit is clearly placed, easily identifiable (from the outside) and domestic in scale and appearance.		
<b>A.10</b>	<b>A</b>	Buildings are designed to promote good air quality.
Capacity for sufficient air change through both passive and active methods. This includes sufficient windows that can be opened in each liveable space to provide fresh air, not just a reliance on air conditioning systems. Buildings should be orientated to take advantage of breezes that bring air movement into communal living areas and bedrooms, but also offer management of more extreme weather. Breezes should not be too strong to make sitting near a window or the outdoor area uncomfortable – check the air speed by sitting in front of window or on terrace/balcony with a book. If the pages do not flip in the breeze, the air speed is comfortable.		

A

Master site planning

<b>A.11</b>	<b>A</b>	Resident laundry is well positioned relative to outdoor space and access to clothesline.
		Resident laundry is positioned in good proximity to outdoor space and access to clothesline, if available, to offer residents the opportunity to participate in day-to-day activities.
<b>A.12</b>	<b>A</b>	Outdoor areas are well placed.
		Outdoor areas used by older people and people with dementia are positioned to minimise negative impacts (e.g. noise, over-looking neighbours) and maximise positive opportunities (e.g. solar access, wind protection).
<b>A.13</b>	<b>A</b>	Bedrooms and living areas are designed to have pleasant views from windows.
		Orientate windows to provide a range of outlooks and connection to active community, but maintain privacy for residents on site and sites adjacent.
<b>A.14</b>	<b>A</b>	The facility provides adequate storage for large, personal and service related items.
		Storage is available for personal items and service related equipment (e.g. trolleys, lifters, clinical equipment, oxygen cylinders) to ensure they are not placed in corridors or on balconies when not in use.
<b>A.15</b>	<b>A</b>	Bedrooms have adequate storage for personal items and mobility aids.
		Bedrooms are sized to accommodate personal items and mobility aids without becoming cluttered and difficult to navigate.
<b>A.16</b>	<b>A</b>	External window treatments do not inhibit outlook or create visual hazards.
		Some window treatments, such as fixed louvres, can restrict the outlook that residents may have from within the building. Additionally, depending on the angle of the sun in relation to the building, shadows or shadow lines can be projected onto the floor (internally and externally), which may be interpreted as a hole or grid. Window tinting is not recommended as during the day it acts like a mirror from the outside, reducing visual access to identify the room and people within. At night, the tinting may form a mirror finish on the inside, which could create confusion and fear, as a person with dementia may not recognise, or misinterpret, their reflection.
<b>A.17</b>	<b>Q</b>	Maintenance workshop is secure but able to be used for resident engagement.
		Consider a location that is secure but provides potential opportunity for resident engagement in day-to-day activities such as gardening and sweeping of outdoor areas.

#### Building design elements – Technology and safety

<b>A.18</b>	<b>A</b>	Assistance-call systems and monitoring systems are not dependent on direct activation.
		Nurse call systems that only rely on a person pressing a button and/or buzzer may not be effective as they are not familiar to a person with dementia. Any nurse call system should have capacity for indirect activation, such as movement senses or pressure pads. This system should be adjustable to meet an individual's needs, rather than a 'one size fits all' system.



# Front entry

## Outcomes

1. The environment enables a person to be as independent as possible.
2. The environment supports the physical, emotional, cognitive and spiritual needs of older people and people with dementia.
3. The design supports staff in their work.
4. Stimuli, such as noise and busyness (e.g. traffic and people) are minimised.
5. The environment is designed to be familiar, domestic, intuitive and understandable.
6. Institutional intrusion is minimised.

Area leading to the entry of the building and/or unit		
B.1	A	<p>Street signage (if used) promotes the dignity and privacy of people using the building.</p> <p>Signage should assist a person locate the building (ensure that any signage is positioned 1200mm from the ground), but not create a sense of stigma within the environment. People with dementia are at greater risk of reduced self-esteem, and being stigmatised due to having dementia can be a significant factor.</p>
B.2	A	<p>The pathway between the car park/set-down area and the entrance is continuous and free of obstacles.</p> <p>Check: kerbs, ramps, handrails, shrubbery over the path or overhanging trees, uneven surfaces, minimal tonal contrast between different pathway surfaces. Also, check that the edging along the path tonally contrasts, to help a person identify where the path finishes and the garden or grass begins.</p>
B.3	R	<p>External lighting along the path supports safe passage.</p> <p>Lighting should not be shining directly into a person's face as they walk along the path and towards the door. Lighting along the path should be even, to minimise shadows and pools of light and dark, as an older person may mistake this for a hole or a change in height/depth.</p>
B.4	A	<p>Seating is available.</p> <p>Where there are considerable distances from parking/set down areas to the entrance, seating should be positioned to allow for people to sit and rest. Seating design should be homely, comfortable, robust and at a height which is easy to get in and out of.</p>
B.5	R	<p>Any steps have a tonally contrasting strip on the front edge of the tread and a handrail which is clearly seen.</p> <p>The tonally contrasting strip covers between 50 and 75mm in depth across the full width of the step to maximise visibility of the step. The handrail should tonally contrast with the tone of the flooring on the steps and the wall (if affixed to a wall).</p>

B

Front entry

## Entry into the building

- B.6** **A** The doorway is easy to distinguish upon entering the building.

The front door to the building should be obvious when accessing it externally. It should be visually distinct from the surrounding structures, such as windows and fire exit doors. The door should tonally contrast (light reflectance value variance of at least 30 per cent) to the doorway/adjacent walls while still maintaining a homely look.

- B.7** **A** The front door looks iconic and homely.

The style of door should look domestic and non-institutional, to ensure that the homely ambience of the interior is consistent.

- B.8** **R** Entrance is accessible for people with physical limitations including those using wheelchairs and mobility aids.

Check: minimum clear doorway opening of 850mm, adequate wheelchair circulation space, avoid threshold step, appropriate gradient of ramp with landing if the ramp is longer than nine metres, paths should have a minimum width of one metre, and entrance matting is even and does not hinder mobility aids.

- B.9** **A** There is a storage area for outdoor clothing and equipment.

When people are entering a building they may like to store umbrellas, coats or hats for convenience and safekeeping. A hat stand, hall-stand or a cupboard could be useful, as well as prompting a person with dementia to take these items when they leave the building. Conversely, being able to store these items in a cupboard may prevent an item (e.g. an umbrella) from being used inappropriately.

- B.10** **A** The entrance is well presented, clean and homely.

The entrance should look welcoming, tidy and consistent with the interior finishes to encourage a sense of positive self-esteem and pride in the home.

- B.11** **A** The entrance is not conspicuous from inside the building/unit.

Entry into the unit should be obvious from the external side, but should not be obvious from inside, as this may prompt a person with dementia to seek to leave. A secondary door that can be closed to reduce visibility of the front door can be effective. The doorbell to the building should alert staff while not disturbing people or the person's visitors.

- B.12** **A** Access from the front entry can be unobtrusively managed.

The locking mechanism for the door should be consistent with the domestic style of the interior of the building. A key pad/coded system is not overly secure, particularly when the code is advertised in close proximity or provided to visitors upon entry. A simple key locking mechanism, operated by staff provides the additional benefit of having visitors escorted into and out of the building.

B

Front entry

# Lounge areas

## Outcomes

1. The environment enables a person to be as independent as possible.
2. Institutional intrusion is minimised.
3. The environment supports the physical, emotional, cognitive and spiritual needs of older people and people with dementia.
4. Stimuli, such as noise and busyness (e.g. traffic and people) are minimised.
5. The environment is designed to be iconic, intuitive and understandable.
6. Fixtures, fittings and furnishings are highlighted to assist with independence and use.
7. The environment provides opportunities for normal activity engagement.

### Room layout and furnishing

**D**

Lounge areas

**D.1** **A** The room has sufficient cues to enable people to recognise they are in the lounge.

Appropriate cues may include bookshelf, magazine table, radio, TV, lounge seating, lounge lighting.

**D.2** **A** Lounge has a familiar, homely ambience.

Decoration and furnishings of the lounge area should consider the age and culture of the people and create a domestic environment. Unfamiliar items should be removed or concealed, e.g. fire extinguishers.

**D.3** **A** The size of the room reflects a home lounge room.

A homely room will help people feel more at ease. Where a larger room is used there needs to be creative arrangement of furniture to create homely spaces.

**D.4** **A** Different lounge room options are available.

Some people will want to sit and watch TV, but others will not. There should be a lounge room option with no TV.

**D.5** **A** Lounge activity is evident by placement of furniture and other cues.

Some people may require cues from the environment to understand the function of a space. For example, some chairs are arranged by the TV, some chairs are positioned for conversation, some chairs are by the bookshelf.

**D.6** **A** Various activity options are available.

The room offers a choice of activities such as TV, radio, magazine and books.



<b>D.7</b>	<b>A</b>	Options for passive activity are provided.
		Some people will spend a lot of time sitting and so there should be interesting things to watch e.g. fish tank, view of activity outside a window.
<b>D.8</b>	<b>R</b>	There is an unobstructed passage to the toilet from the lounge.
		The toilet and/or clear signage should be visible from the lounge area to help a person find the nearest toilet. Where possible, a toilet should be located close to any communal living areas.
<b>D.9</b>	<b>A</b>	There is unobstructed access to any safe external areas (gardens, courtyards) from the lounge.
		Access to the garden should be obvious, or adequately signed, to facilitate and encourage people to venture outside independently.
<b>D.10</b>	<b>R</b>	Lounge area is accessible for people with all levels of physical abilities.
		There is sufficient space to move a wheelchair/comfort chair between lounges and position a wheelchair/comfort chair within group seating if required.
<b>D.11</b>	<b>A</b>	A variety of chairs are available that are suitable for older people of different sizes and activities that will take place.
		Check: higher chairs will be easier to get out of, however for shorter people lower chairs would be preferable. Foot rests may be required for some residents so feet are not dangling off the floor but these may become a trip hazard. Seat width should allow for knitting or reading on lap but not too wide that armrests cannot be reached. Seats should not be too deep so as to avoid residents sliding back. Chair backs should be high enough so people can snooze in the chair and headrests should be appropriate for the person using the chair.
<b>D.12</b>	<b>A</b>	Furniture placement encourages and supports small group seating.
		Placement of furniture can prompt a person, including staff, to the function of the room. Grouping two to four chairs around a coffee table encourages small groups to sit together and converse, whereas chairs positioned along the walls does not support good interaction. Positioning some of the chairs against the wall and placing another piece of solid furniture behind the other chairs in the group (e.g. small bookcase, table) will provide security and comfort, as people may feel vulnerable or unsafe if the person's back is exposed to the room.
<b>D.13</b>	<b>A</b>	Furniture is available for staff members and visitors to interact readily with people in the lounge area.
		The arrangement of chairs should be conducive to interaction between people. Check there are sufficient chairs for staff and visitors.

## D

## Lounge areas